SECTION 5d - Proximity Factor

CALCULATING A PROXIMITY FACTOR

As discussed in Section 4, "Mitigation Service Areas", the importance of proximity between the impact and mitigation sites will vary with the individual wetland function being considered. The following is an example of a method to calculate a proximity factor (multiplier). Other methods to calculate a proximity factor may be considered by the Florida MBRT. The Florida MBRT discourages large mitigation service areas which incorporate numerous watersheds.

The usual suite of wetland functions were lumped into two broad categories and simple scoring methods for each are proposed. Functions were categorized by considering whether or not they were only applicable (most of the time) within the watershed of the impact site being examined. With the exception of wildlife habitat support for some species, most functions are best offset within the same watershed. To address wildlife habitat support functions, a simple checklist is used to rate the ability of the bank to offset habitat loss at the impact site for an array of fish and wildlife guilds. For the remaining functions, the concept of "diminishing relevance" is introduced.

Fish and Wildlife - For this component of the Px-factor, the following array of guilds has been identified which represent fish and wildlife assets for a variety of habitats.

Neotropical Migrants	Reptiles
Wading Birds	Freshwater Fish
Raptors	Small Mammals
Waterfowl	Large Mammals
Amphibians	Invertebrates

The reviewer selects those guilds that would be represented at the impact site. Next, the reviewer answers yes or no to the following question: **Is the mitigation bank's ability to offset the habitat needs of the following guilds substantially reduced due to its location relative to the impact site location?** Dividing the number of "yes answers" by the total number of guilds that were selected produces a numeric score. For example, from the array of guilds, the reviewer selected six guilds that best represent those species that would use habitats at the impact site. Next the reviewer answered the operative question with a yes or no as listed in the table below:

GUILD	YES/NO
Neotropical Migrants	NO
Wading Birds	YES
Waterfowl	NO
Amphibians	YES
Freshwater Fish	YES
Small Mammals	YES

Four out of six answers are yes, so the score for the fish and wildlife component of the Px-factor is

$$4 \div 6 = 0.67$$

Diminishing Relevance - This concept is based on the premise that the relevance of the mitigation effort is diminished as the primary watersheds of the mitigation site and impact site become further removed. Diminishing relevance expresses the relationship of the mitigation bank to the service area and how it relates to the impact site. It is not necessarily proportional to distance from the bank to the impact site. It may also express the relationship of the bank to adjacent basins or larger systems outside the service area.

An out-of-state example of this concept carried to the extreme would be impact to wetlands on the westerly side of the Appalachian Trail at Chattahoochee Gap mitigated with credits from a bank on the easterly side of the trail 50 yards away. The impact occurs in the Tennessee/Mississippi River System and mitigation occurs in the Chattahoochee/Apalachicola River System. The only common or shared hydrologic continuum would be the Gulf of Mexico. Such divergent watersheds might be geographically adjacent but should not be considered for inclusion into the same service area. Under state ERP rules, unacceptable cumulative impacts to a drainage basin cannot be permitted.

An in-state example of geographically and hydrologically adjacent watersheds that could be located in the same service area would be impact in the Lake Woodruff Unit with compensatory mitigation located in the Lake Monroe Unit as shown on the Regional Watersheds of the SJRWMD for Mitigation Banks map. The impact site and the bank from which credits are drawn in this example are hydrologically connected. This is a hypothetical example; the service area for each bank is determined by the MBRT.

By the time a mitigation bank is ready for business, the banking instrument (MBI) has been finalized, and the number of credits available in a bank have been calculated using some form of functional assessment procedure (currently WRAP). The credits available in the bank are an expression of a finite range, or amount, of functions performed by the wetlands of that mitigation bank. This range is a subset of the amount of functions performed by wetlands in the watershed(s) of the service area. We need to compensate for the situation that, as the service area gets larger, the bank may become more biologically and hydrologically removed from, and less relevant to, the impact sites. To do this, the proportion of the amount of functions performed by the bank is compared to the sum of the amounts of functions available in all of the watersheds in the service area which are shared by the impact site and the bank location.

A simple way to numerically score this concept is to proportionally relate the total area of the aggregate watersheds needed to encompass both the bank and impact sites with the area of watershed of the bank site alone. Please refer to Figure 5d-1. There are four watersheds labeled A-D. The bank site is located in watershed A. Impact Site W is also located in watershed A, Impact Site X is located in watershed B, Impact Site Y is located in watershed C, and Impact Site

Z is located in watershed D. The acreage of each watershed is shown in the following table:

WATERSHED	ACREAGE
A	176,898
B	63,953
C	161,250
D	120,498

The relevance component of the Px-factor for each Impact Site is calculated as follows:

Impact Site W - Both the bank and Impact Site W are located in watershed A so the raw score for the relevance component is simply

$$176,898 \div 176,898 = 1.0$$

Impact Site X - Watersheds A and B encompass both the bank site and Impact Site X. The combined area of Watersheds A and B are then divided by the area of Watershed A. The raw score for the relevance component for Impact Site X is

$$(176,898 + 63,953) \div 176,898 = 1.34$$

Impact Site Y - Watersheds A and C encompass both the bank site and Impact Site Y. The combined area of Watersheds A and C are then divided by the area of Watershed A. The raw score for the relevance component for Impact Site Y is

$$(176,898 + 161,250) \div 176,898 = 1.91$$

Impact Site Z - Watersheds A, B, C, and D encompass both the bank site and Impact Site Z. The combined area of Watersheds A, B, C, and D are then divided by the area of Watershed A. (note: since Watershed A is not contiguous with Watershed D, both of the intervening Watersheds B and C must be included in the total. The raw score for the relevance component for Impact Site Z is

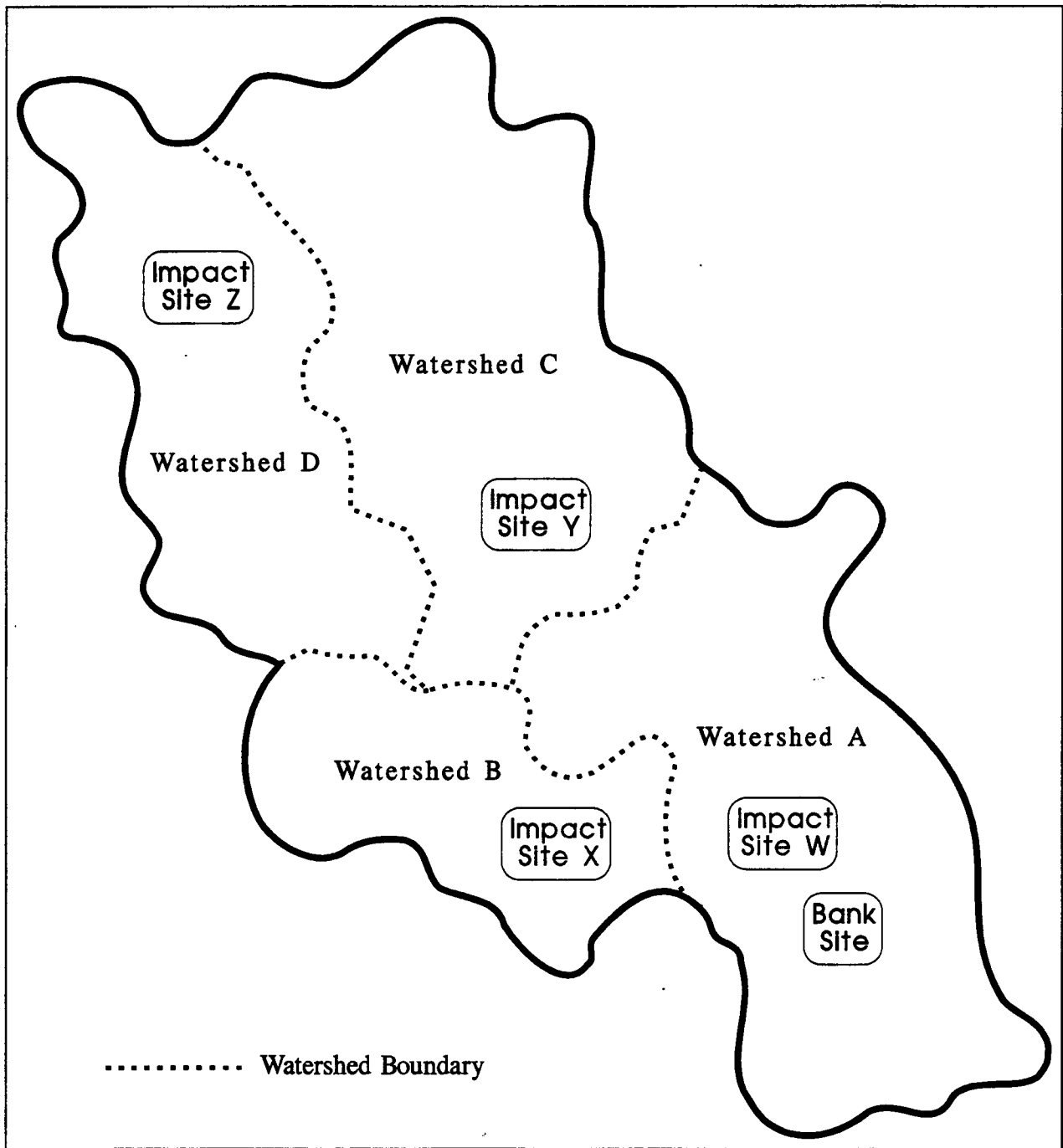$$(176,898 + 63,953 + 161,250 + 120,498) \div 176,898 = 2.95$$

Figure 5d -1

To make the raw scores of the relevance component consistent with the 0.0-1.0 ranking scheme, a simple relationship is established where the lowest possible raw score (which will always be 1.0) is set equal to the lowest relevance score of 0.0 and the highest possible raw score (which will vary) is set equal to the highest relevance score of 1.0. Scores in between are interpolated. The converted relevance scores for the example are:

Impact Site Location	Raw Score	Relevance Factor
Impact Site W	1.0	0.0
Impact Site X	1.34	0.45
Impact Site Y	1.91	0.64
Impact site Z	2.95	1.0

This calculation need only be done once because a table of relevance scores for each watershed in the MSA for a given bank can be incorporated into the MBI for the bank.

Impact Site Location	Relevance Factor
Watershed A	0.0
Watershed B	0.45
Watershed C	0.64
Watershed D	1.0

The fish and wildlife and relevance components are equally weighted to produce the total proximity factor. In other words, (Fish and Wildlife + Relevance)÷2=Proximity Factor. Using the fish and wildlife component of 0.67, the proximity factor for an impact site located in Watershed C would be

$$(0.67+0.64)÷2=0.66$$

One (1) must be added to this proximity factor before multiplication. So the factor 1.66 would be multiplied by the total number of debits associated with the particular impact site. For example, if this particular impact site exhibits 7.85 debits, then 13.03 credits would be required from the mitigation bank.